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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/373,704	08/13/1999	JAE KWAN LIM	K-102	2868

34610 7590 07/15/2003

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EXAMINER
PHAM, BRENDA H

ART UNIT	PAPER NUMBER
2664	2

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/373,704	LIM, JAE KWAN	
	Examiner	Art Unit	
	Brenda Pham	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *01 August 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,11 and 12* is/are rejected.

7)☒ Claim(s) *7,9 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-12 have been examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

3. Claims 3, 4, 8 and 10 objected to because of the following informalities:

-Line 7 of claim 3 recited "switch terminals" should be corrected to --switch stages--. Appropriate correction is required.

-Line 11 of claim 4, the recitation "if" should be deleted.

-Line 19 of claim 8, after "N/n x N/n", the recitation --whereby n is defined as the number of input of the switching elements and N is defined as a whole capacity of the switch network-- should be added.

-Line 6 of claim 10, the recitation "if" should be deleted.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 8, 11-12 are rejected under 35 USC 102(b) as being anticipated by **Yoshifuji** (US 5,032,837).

-Regarding claims 1 and 6, **Yoshifuji** discloses a method of increasing a switch capacity in a switch network system in which three or more switch stages including a plurality of switching elements are connected in serial by using a predetermined logical circuit, the method comprising the steps of (see figures 4 and 5): adding switch stage including a plurality of switching elements to correspond to the each switch stage (figure 5 shows the existing stages and expansion stages); grouping switching elements of a first switch stage and last switch stage in the switch stage and the added switch stage by a predetermined unit, respectively (grouping two (n x 2n) of a first switch stage and two (2n x n) of the last switch stage as shown in figure 4 to make (2n x 4n) and (4n x 2n) as shown in figure 5); and connecting the grouped switching elements of the first stage with corresponding switching elements of an intermediate switch stage which is placed between the first stage and last stage, respectively, and connecting the grouped switching elements of the last switch stage with the corresponding switching elements of the intermediate switch stage, respectively (see figure 5).

-Regarding claim 2, **Yoshifuji** teaches wherein the switching elements of the first and last switch stages are grouped by a pair of unit, respectively (element 11_1 and 13_1 of figure 4).

-Regarding claim 3, **Yoshifuji** further teaches wherein the connecting step includes connecting a first switching element of each grouped switching element in the first and last switch stages with each switching element of the intermediate switch stage which is not added, respectively; and connecting the other switching element of the each grouped switching elements in the first and last switch stages with each switching element in the intermediate switch terminal which is added, respectively. (Figure 5

shows each grouped switching element 11_1 in the first switch stage 15 and each grouped element 13_1 in the last switch stage 17 are connected with each switching element 12_1 of the intermediate switch stage 16 which is not added (existing stages), respectively; the other switching element of each grouped switching elements $11_{N/n}$ in the first switch stages 15 and switching element of each grouped switching elements $13_{N/n}$ in the last switch stage 17 are connected with each switching element in the intermediate switch stage 12 which is added in expansion stages).

-Regarding claim 4, **Yoshifuji** teaches wherein the switching elements are added to the switch stages of the switch network system, the added switch capacity is increased by the unit of 2^N times. Figure 3 of the instant application is identical to figure 5 of Yoshifuji. Page 10, line 10-15 of the instant application states that "The whole switch capacity of the increased switch network becomes 2^N times as large as that of the previous switch network by adding the second switch network (expansion stages) which is identical to the existing stages). Therefore, by added the expansion stages such as that shown in figure 5 of Yoshifuji would increased the whole switch capacity by the unit of 2^N times.

-Regarding claims 5 and 11, **Yoshifuji** teaches wherein the connecting step is carried out by changing an access port of input/output terminals of the respective switching elements (col. 4, lines 65-67 and col. 5, lines 1-10).

-Regarding claim 8, **Yoshifuji** teaches wherein the each switch element of the intermediate switch stage is connected to the switching elements of the first and last switch stages, the switching elements of the intermediate switch stage having the number of input/output of N/n x N/n (see figure 5).

-Regarding claim 12, **Yoshifuji** teaches wherein the switching elements are added by the unit of module. (The whole expansion stages shows in figure 5 is the unit of module).
(80, 82, 84, 30)

Allowable Subject Matter

6. Claims 7, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art made of record fails to teach wherein the first switch stage includes switching element of which ratio of the number of input/out is 1.5 times of n x 2n, whereby n is defined as the number of input of the switching elements and N is defined as a whole capacity of the switch network.

The prior art made of record does not teach wherein the each switch element of the intermediate switch stage is connected to respective switching element of the intermediate switch terminal, the switching elements of the intermediate switch stage having the number of input/output of 1.5 time of 2n x n.

The prior art further fails to teach wherein switching elements are added to the switch stage of the switch network system, the added switch capacity is increased by the unit of 1.5 times of 2^N.

Conclusion

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Fax to:

(703) 872-9314, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist)

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (703) 308-0148. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (703) 305-4366.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Brenda Pham
July 11, 2003
Brenda A. Pham